The QNU seeks to improve the safety and quality of health services in Queensland by mandating nurse/midwife-to-patient ratios\(^1\), skill mix levels and nursing/midwifery specific data collections. Safe, high quality care produces better experiences and health outcomes for patients while improving the productivity and sustainability of health services.

National and international studies have empirically proven the number of nurses, their skill mix, and their practice environment positively influences the safety and quality of health services.

In January 2015 we launched our Ratios Save Lives campaign to improve the quality of care provided in all sectors.

**Campaign claims**

1. Mandate and enforce (via legislation and regulation standards) minimum nurse/midwife-to-patient ratios and skill mix levels for Queensland Health (QH) facilities, to act as a care guarantee in conjunction with the proper application of the Business Planning Framework workload planning tool.

2. Mandate and enforce (via legislation and regulation standards) minimum nurse/midwife-to-patient ratios and skill mix levels for acute private health facilities to minimise unwarranted service variation across Queensland.

3. Mandate and enforce (via legislation and regulation standards) the participation of public, private and aged care sectors in minimum nursing/midwifery data sets that monitor and openly report nurse/midwife ratios, skill mix levels and quality outcomes across Queensland.

4. Urgently review the adequacy of nurse numbers, skill mix, and quality indicators in residential aged care facilities across Queensland to determine the parameters of safe staffing for the purposes of mandating minimum nurse-to-resident ratios and skill mix levels.

5. Mandate and enforce via legislation that a Registered Nurse is present on shift in residential aged care facilities at all times to improve the safety and quality of care delivery in parity with the New South Wales’ Public Health Act 2010.

**Why make these claims now?**

The principles of safe staffing in relation to nurse/midwife numbers, adequate skill mix levels, and quality performance indicators are not consistent across health care services in Queensland.

Varying approaches to workload management have led to unsafe work environments, disparity in patient outcomes and high levels of staff dissatisfaction.

**How will these claims help guarantee safe levels of care in Queensland?**

The claims seek to provide a reliable and enforceable workload management methodology for nurses and midwives in public, private, and residential aged care facilities, reinforced by the public reporting of ratios, skill mix levels, and quality outcomes.

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\(^1\) Where the term “patient” is used, it also refers to “aged care resident”.

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THE CASE FOR RATIOS
Incorporating minimum ratios into the existing QH Business Planning Framework methodology will simplify the workload planning process and maximise compliance.

Mandating that a Registered Nurse is on duty at all times in residential aged care facilities demonstrates a commitment to safety and quality of care while the QNU seeks to secure broader staffing levels on par with those already legislated in New South Wales.

Commitment from the State Government will be necessary to support the review of workloads in aged care services and to pursue any nursing workload management recommendations with the Federal Government who primarily funds these services.

Our ratios claim also calls for data on nurse/midwife ratios, skill mix and quality outcomes for all health sectors to be made publicly available—both for the purpose of transparency and as an incentive for health care providers to improve their accountability and clinical performance.

Ratios and skill mix levels

What are minimum ratios and skill mix levels?

Nurse/midwife-to-patient ratios describe the minimum number of nurses required to deliver care to a set number of patients.

Skill mix levels refer to the proportions of different nursing/midwifery categories such as Registered Nurse, Registered Midwife, Enrolled Nurse, and Assistant in Nursing required to satisfactorily meet the number and acuity of patients.

Example:

Adult Medical Ward Morning Shift

- One nurse to every four patients (1:4) +1 in charge nurse.
- Minimum of 80% Registered Nurses rostered on each shift.
- No more than one (headcount) Assistant in Nursing working on any shift.

How do ratios and skill mix levels work?

Ratios and skill mix levels provide a safety net for patients, staff, and organisations by outlining the minimum staffing and skills required to meet patient demand.

Ratios and skill mix levels can be applied across a range of health services in the public, private and aged care sectors and are determined based on the type of facility, domain of nursing/midwifery, and time of day.

Ratios are applied in many countries around the world including Japan, Canada, United States, United Kingdom, and Australia. California, Victoria, and New South Wales have mandated ratios to ensure the provision of safe, high quality care to patients.

Why should ratios and skill mix levels be mandated in Queensland?

Queenslanders have a right to receive safe, high quality health and aged care based on the best evidence available. Ratios and endorsed skill mix levels are an economically sound method to save lives and improve patient outcomes.
There is a vast body of research which proves that the number, skill mix and practice environment of nurses and midwives clearly improves the safety and quality of health services.

Ratios and endorsed skill mix levels also contribute to organisational productivity, hospital efficiency, and continuity of patient care by increasing staff satisfaction, decreasing attrition rates, and improving health care equality across the sectors.

Mandating ratios in Queensland's public health sector will align our state with the nurse/midwife ratios already mandated in Victoria and New South Wales.

**Patient benefits**

Mandating ratios and skill mix protocols have improved patient satisfaction, lowered mortality, decreased readmission rates, and reduced adverse events such as infections, pressure injuries and postoperative complications.

For Queenslanders, this means they are likely to spend less time in hospital and receive more personal nursing/midwifery care than they would now.

The statistics, drawn from numerous empirical case studies show:

- Every one patient added to a nurse's workload is associated with a 7% increase in deaths after common surgery.
- Every 10% increase in bachelor-educated nurses is associated with a 7% lower mortality.
- Every one patient added to a nurse's workload increased a medically-admitted child's odds of readmission within 15-30 days by 11% and a surgically-admitted child's likelihood of readmission by 48%.

**Health service benefits**

Mandating ratios and skill mix levels in Queensland will reduce health care variation and deliver economic benefits by reducing adverse patient outcomes and improving health care equality across the sectors. For health services, this means the delivery of...
direct patient care becomes more achievable and affordable.

- A study of Victorian and Queensland public hospitals estimated hospital-acquired complications such as pneumonia and urinary tract infections added 17.1% cost to a hospital admission. Improved nurse staffing and skill mix levels will reduce these types of adverse events and minimise unnecessary costs.

- Increased nursing skill mix in aged care is associated with reductions in hospital admissions, readmission rates, presentation to emergency departments and improvement in management of end of life care.

**Enforcement roles**

**Government’s role**
Changes in legislation and regulation standards will be needed to implement and enforce ratios and skill mix levels within the patient safety and quality frameworks of public, private, and aged care health services.

Legislation and regulation standards will need to outline the monitoring and reporting mechanisms required to measure an organisation's compliance with ratios and skill mix levels against quality of care indicators and governance frameworks.

**Organisation’s role**
Health care organisations will need to develop policies, standards and guidelines based on legislation and regulations to enforce and monitor the local implementation of ratios and skill mix levels.

Enforcement mechanisms at the organisational level are required and may involve reward and penalty functions such as funding incentives or penalties, which are applied based on the level of compliance with ratios and skill mix.

Organisations will be responsible for providing education and training to individuals to improve understanding and increase commitment to the implementation of ratios and skill mix levels.

**Individual’s role**
Expectations of individual compliance with ratios and skill mix levels are to be outlined in organisational policies, standards, and guidelines. Nursing and midwifery staff must adhere to the policies, codes, and guidelines of the Nursing and Midwifery Board of Australia (NMBA) which includes clauses about reporting skill mix and staffing needs to ensure patient safety.

**Nursing’s contribution to better care**
An Australian study demonstrated that increasing Registered Nurse hours by as little as 10% resulted in the following decreased incidence of adverse events:

- 45% central nervous system complications
- 37% GI bleeding
- 34% UTIs
- 27% failure to rescue
- 19% pressure ulcers
- 15% sepsis
- 11% pneumonia

Applying the percentages above to the average cost of individual adverse events based on a Queensland and Victorian study there is an estimated 23% decrease in the total expenditure for 100 episodes each of the four selected adverse events.
Significant savings for the health system can result from improving nursing and midwifery numbers and skill mix. Extrapolating from recent research, the following tables show the probable savings achievable.

**COST PER 100 EPISODES OF SELECTED ADVERSE EVENT WITH ADDITIONAL REGISTERED NURSE HOURS**

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Cost/episode</th>
<th>Cost/100 cases</th>
<th>Discount for RN</th>
<th>Revised Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septicaemia</td>
<td>$9,420</td>
<td>$942,000</td>
<td>$141,300</td>
<td>$800,700</td>
</tr>
<tr>
<td>Pressure ulcers</td>
<td>$8,461</td>
<td>$846,100</td>
<td>$160,759</td>
<td>$685,941</td>
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<tr>
<td>Gastrointestinal bleeding</td>
<td>$4,211</td>
<td>$421,100</td>
<td>$155,807</td>
<td>$265,293</td>
</tr>
<tr>
<td>UTI</td>
<td>$3,675</td>
<td>$367,500</td>
<td>$124,950</td>
<td>$242,550</td>
</tr>
<tr>
<td>Total for 400 adverse events</td>
<td></td>
<td>$2,576,700</td>
<td>$582,816</td>
<td>$1,993,884</td>
</tr>
</tbody>
</table>

**Localised example:** Queensland Health reported 2102 hospital acquired pressure injuries ranging from stage 2 to stage 4 in 2012-13.

**COSTS FOR PRESSURE ULCERS EPISODES IN QUEENSLAND HEALTH**

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Cost/episode</th>
<th>Cost/2102 cases</th>
<th>Discount for RN</th>
<th>Revised Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure ulcers</td>
<td>$8,461</td>
<td>$17,785,022</td>
<td>$1,778,502</td>
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</tbody>
</table>

2 November 2012- October 2013